

911-11

PARTS CATALOG

ONAN MARINE DIESEL ELECTRIC
GENERATING PLANTS

MDSP *Series*

Direct Current Models

•

Alternating Current Models

•

Dual Purpose Models

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D. W. ONAN & SONS INC. MINNEAPOLIS 14, MINNESOTA

911-11***

Price \$4.00

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Printed in U.S.A.

Important Safety Precautions

Read and observe these safety precautions when using or working on electric generators, engines and related equipment. Also read and follow the literature provided with the equipment.

Proper operation and maintenance are critical to performance and safety. Electricity, fuel, exhaust, moving parts and batteries present hazards that can cause severe personal injury or death.

FUEL, ENGINE OIL, AND FUMES ARE FLAMMABLE AND TOXIC

Fire, explosion, and personal injury can result from improper practices.

- Used engine oil, and benzene and lead, found in some gasoline, have been identified by government agencies as causing cancer or reproductive toxicity. When checking, draining or adding fuel or oil, do not ingest, breathe the fumes, or contact gasoline or used oil.
- Do not fill tanks with engine running. Do not smoke around the area. Wipe up oil or fuel spills. Do not leave rags in engine compartment or on equipment. Keep this and surrounding area clean.
- Inspect fuel system before each operation and periodically while running.
- Equip fuel supply with a positive fuel shutoff.
- Do not store or transport equipment with fuel in tank.
- Keep an ABC-rated fire extinguisher available near equipment and adjacent areas for use on all types of fires except alcohol.
- Unless provided with equipment or noted otherwise in installation manual, fuel lines must be copper or steel, secured, free of leaks and separated or shielded from electrical wiring.
- Use approved, non-conductive flexible fuel hose for fuel connections. Do not use copper tubing as a flexible connection. It will work-harden and break.

EXHAUST GAS IS DEADLY

- Engine exhaust contains carbon monoxide (CO), an odorless, invisible, poisonous gas. Learn the symptoms of CO poisoning.
- Never sleep in a vessel, vehicle, or room with a genset or engine running unless the area is equipped with an operating CO detector with an audible alarm.
- Each time the engine or genset is started, or at least every day, thoroughly inspect the exhaust system. Shut down the unit and repair leaks immediately.

- Warning: Engine exhaust is known to the State of California to cause cancer, birth defects and other reproductive harm.

Make sure exhaust is properly ventilated.

- Vessel bilge must have an operating power exhaust.
- Vehicle exhaust system must extend beyond vehicle perimeter and not near windows, doors or vents.
- Do not use engine or genset cooling air to heat an area.
- Do not operate engine/genset in enclosed area without ample fresh air ventilation.
- Expel exhaust away from enclosed, sheltered, or occupied areas.
- Make sure exhaust system components are securely fastened and not warped.

MOVING PARTS CAN CAUSE SEVERE PERSONAL INJURY OR DEATH

- Do not remove any guards or covers with the equipment running.
- Keep hands, clothing, hair, and jewelry away from moving parts.
- Before performing any maintenance, disconnect battery (negative [-] cable first) to prevent accidental starting.
- Make sure fasteners and joints are secure. Tighten supports and clamps, keep guards in position over fans, drive belts, etc.
- If adjustments must be made while equipment is running, use extreme caution around hot manifolds and moving parts, etc. Wear safety glasses and protective clothing.

BATTERY GAS IS EXPLOSIVE

- Wear safety glasses and do not smoke while servicing batteries.
- Always disconnect battery negative (-) lead first and reconnect it last. Make sure you connect battery correctly. A direct short across battery terminals can cause an explosion. Do not smoke while servicing batteries. Hydrogen gas given off during charging is explosive.
- Do not disconnect or connect battery cables if fuel vapors are present. Ventilate the area thoroughly.

DO NOT OPERATE IN FLAMMABLE AND EXPLOSIVE ENVIRONMENTS

Flammable vapor can be ignited by equipment operation or cause a diesel engine to overspeed and become difficult to stop, resulting in possible fire, explosion, severe personal injury and death. **Do not operate diesel equipment where a flammable vapor environment can be created by fuel spill, leak, etc., unless equipped with an automatic safety device to block the air intake and stop the engine.**

HOT COOLANT CAN CAUSE SEVERE PERSONAL INJURY

- Hot coolant is under pressure. Do not loosen the coolant pressure cap while the engine is hot. Let the engine cool before opening the pressure cap.

ELECTRICAL SHOCK CAN CAUSE SEVERE PERSONAL INJURY OR DEATH

- Do not service control panel or engine with unit running. High voltages are present. Work that must be done while unit is running should be done only by qualified service personnel.
- Do not connect the generator set to the public utility or to any other electrical power system. Electrocutation can occur at a remote site where line or equipment repairs are being made. An approved transfer switch must be used if more than one power source is connected.
- Disconnect starting battery (negative [-] cable first) before removing protective shields or touching electrical equipment. Use insulative mats placed on dry wood platforms. Do not wear jewelry, damp clothing or allow skin surface to be damp when handling electrical equipment.
- Use insulated tools. Do not tamper with interlocks.
- Follow all applicable state and local electrical codes. Have all electrical installations performed by a qualified licensed electrician. Tag open switches to avoid accidental closure.
- With transfer switches, keep cabinet closed and locked. Only authorized personnel should have cabinet or operational keys. Due to serious shock hazard from high voltages within cabinet, all service and adjustments must be performed by an electrician or authorized service representative.

If the cabinet must be opened for any reason:

1. Move genset operation switch or Stop/Auto/Handcrank switch (whichever applies) to Stop.
2. Disconnect genset batteries (negative [-] lead first).
3. Remove AC power to automatic transfer switch. If instructions require otherwise, use extreme caution due to shock hazard.

MEDIUM VOLTAGE GENERATOR SETS (601V TO 15kV)

- Medium voltage acts differently than low voltage. Special equipment and training are required to work on or around medium voltage equipment. Operation and maintenance must be done only by persons trained and qualified to work on such devices. Improper use or procedures will result in severe personal injury or death.
- Do not work on energized equipment. Unauthorized personnel must not be permitted near energized equipment. Induced voltage remains even after equipment is disconnected from the power source. Plan maintenance with authorized personnel so equipment can be de-energized and safely grounded.

GENERAL SAFETY PRECAUTIONS

- Do not work on equipment when mentally or physically fatigued or after consuming alcohol or drugs.
- Carefully follow all applicable local, state and federal codes.
- Never step on equipment (as when entering or leaving the engine compartment). It can stress and break unit components, possibly resulting in dangerous operating conditions from leaking fuel, leaking exhaust fumes, etc.
- Keep equipment and area clean. Oil, grease, dirt, or stowed gear can cause fire or damage equipment by restricting airflow.
- Equipment owners and operators are solely responsible for operating equipment safely. Contact your authorized Onan/Cummins dealer or distributor for more information.

KEEP THIS DOCUMENT NEAR EQUIPMENT FOR EASY REFERENCE.

INSTRUCTIONS FOR ORDERING REPAIR PARTS

FOR PARTS OR SERVICE, CONTACT THE DEALER FROM WHOM YOU PURCHASED THIS EQUIPMENT OR REFER TO YOUR NEAREST AUTHORIZED SERVICE STATION.

TO AVOID ERRORS OR DELAY IN FILLING YOUR PARTS ORDER, PLEASE FURNISH ALL INFORMATION REQUESTED.

REFER TO THE NAMEPLATE ON YOUR PLANT

1. Always give the MODEL & SPEC. NO. and SERIAL NO.

ELECTRIC Onan PLANT
MODEL AND SPEC. NO. SERIAL NO.

IMPORTANT - READ INSTRUCTIONS BEFORE STARTING PLANT

A.C. VOLTS	AMPERE	H.P.	D.C. VOLTS	AMPERE	WATTS	CYCLES	PHASE
SERIAL NO.	GEN. NO.		USE		VOLT BATTERY		
D. W. ONAN & SONS, INC.							
MINNEAPOLIS, MINNESOTA, U.S.A.							

4229

2. Do not order by reference number or group number, use part number and description.
3. Give the part number, description and quantity needed of each item. If an old part cannot be identified, return the part prepaid to your dealer or nearest AUTHORIZED SERVICE STATION. Print your name and address plainly on the package. Write a letter to the same address stating the reason for returning the part.
4. State definite shipping instructions.

Any claim for loss or damage to your unit in transit should be filed promptly against the transportation company making the delivery. Shipments are complete unless the packing list indicates items are back ordered.

"Prices are purposely omitted from this Parts Catalog due to the confusion resulting from fluctuating costs, import duties, sales taxes, exchange rates, etc.

For Current parts prices, consult your Onan Dealer, Distributor or Parts and Service Center."

"En esta lista de partes los precios se omiten de proposito, ya que bastante confusion resulta de fluctuaciones de los precios, derechos aduanales, impuestos de venta, cambios extranjeros etc.

Consiga los precios vigentes de su distribuidor de productos "ONAN".

MDSP SERIES GENERATING PLANTS

PARTS CATALOG

This parts catalog applies specifically to single-cylinder, water cooled, Marine diesel powered, electric generating plants of the MDSP Series.

Be sure to furnish the Model, Spec., and Serial No. of the plant. When the plant Model and Spec are written together, a diagonal (/) is used between them.

The STANDARD (or basic) plant has the number ONE in the Model Specification (example: 3MDSP-IR/1A) as shown on the plant nameplate.

Optional equipment may be installed on the plant at the factory as requested by the customer to meet the requirements of a particular application. The Model specification number (other than 1) indicates the plant is a SPECIAL model having one or more optional parts added to or subtracted from the standard plant.

If the special or optional part is not listed, order by complete description of the part and furnish nameplate information.

Parts are illustrated in groups and have reference numbers which correspond to the like numbers in the list for that group.

Parts illustrations are typical and should not be construed to represent a particular part number.

The cranking end is considered the "Front" of the plant and the oil fill side as the "Right side" as viewed facing the front.

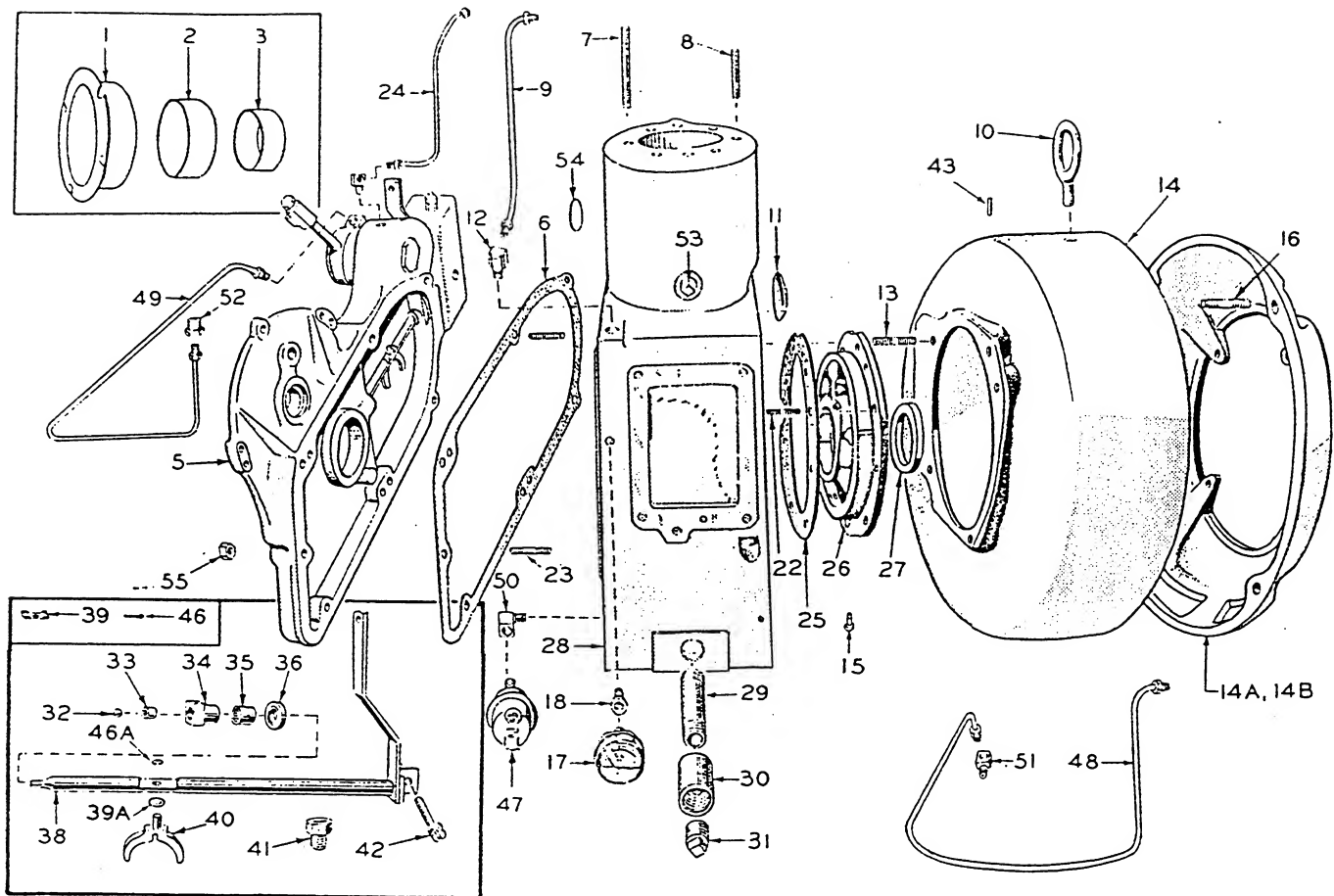


FIG.A-CYLINDER AND GEARCASE GROUP

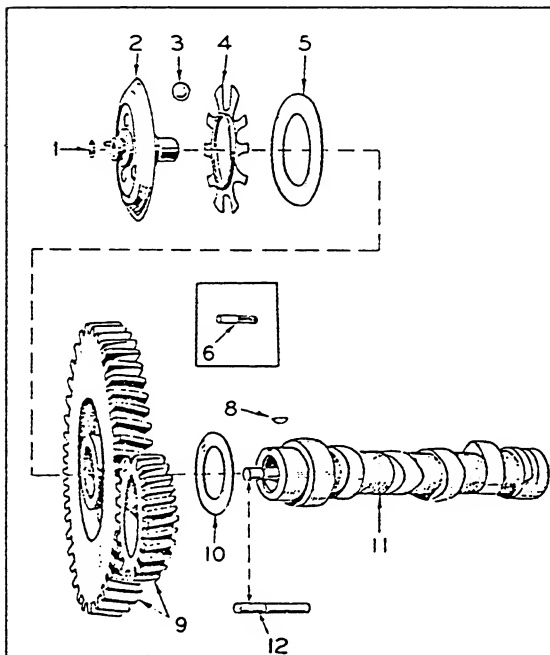


FIG.B-CAMSHAFT GROUP

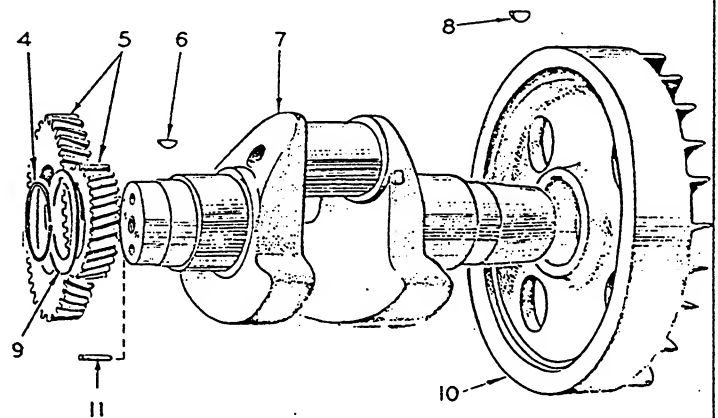


FIG.C-CRANKSHAFT AND FLYWHEEL GROUP

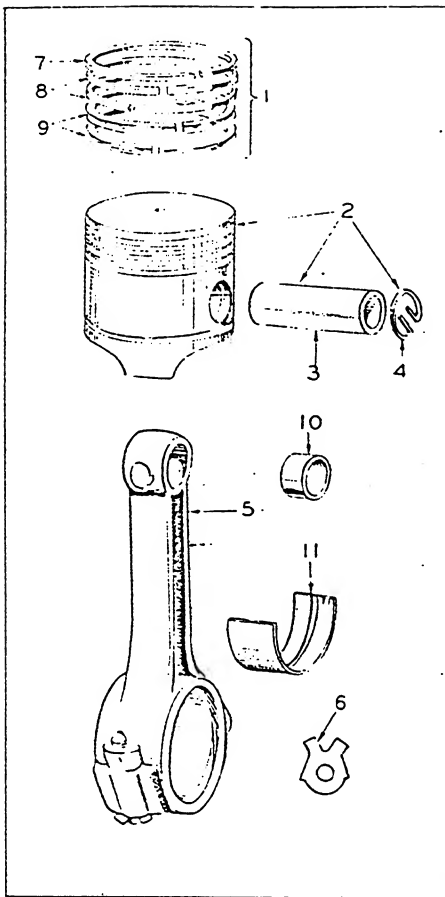


FIG.D-PISTON AND
CONNECTING ROD GROUP

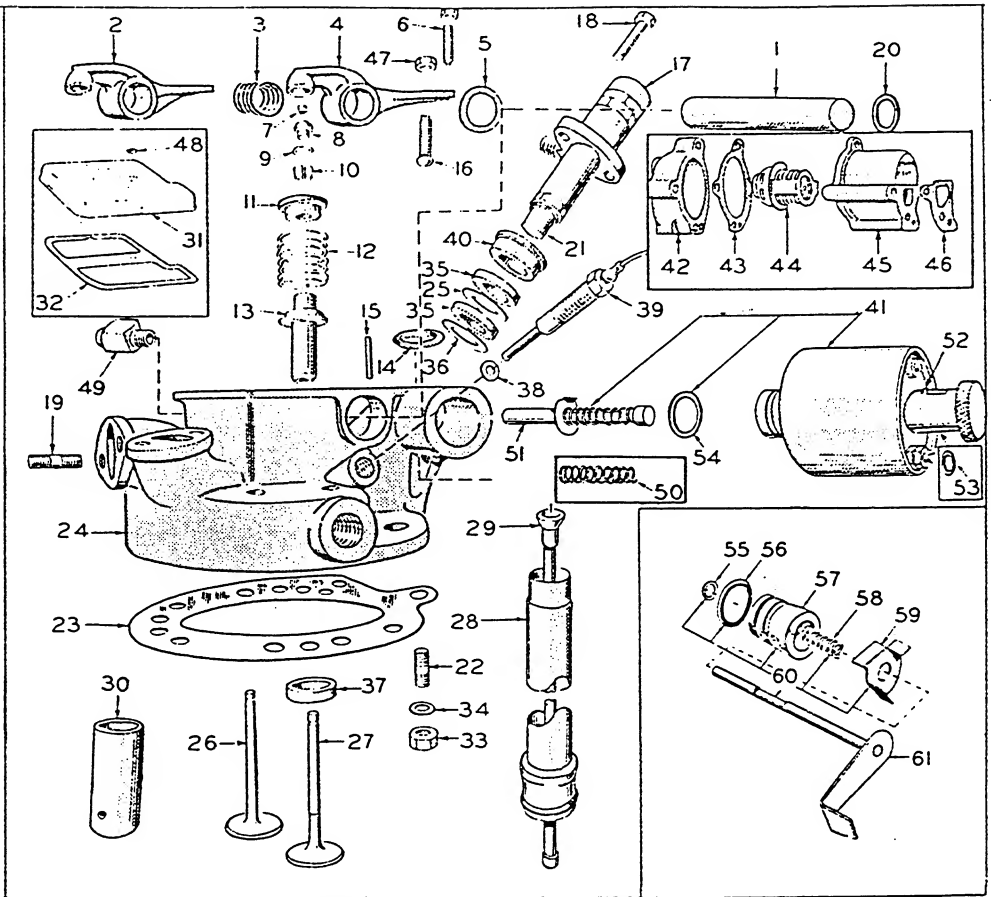


FIG.E-CYLINDER HEAD AND VALVE GROUP

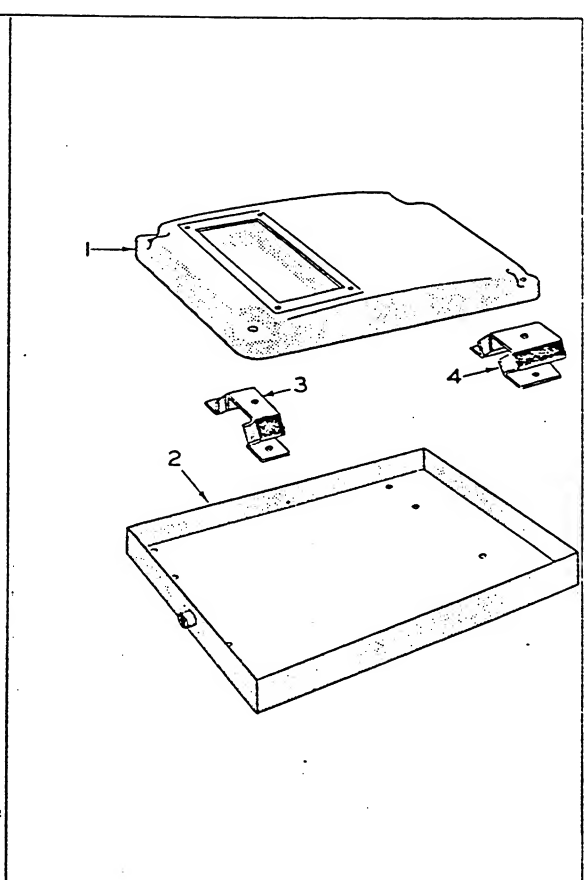
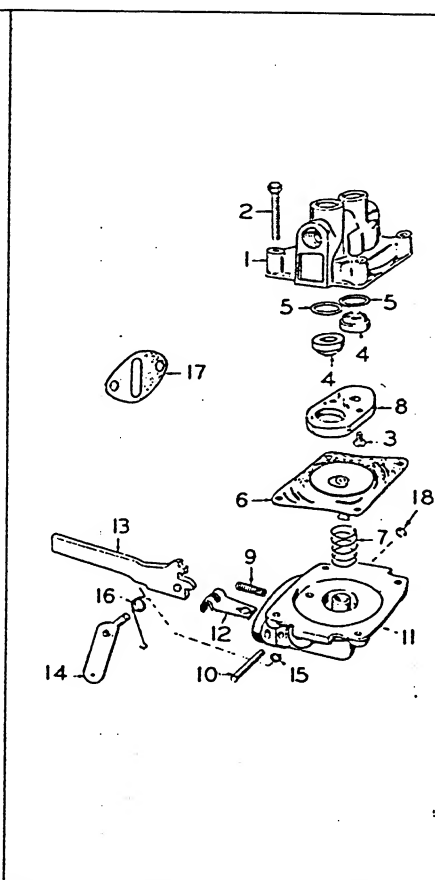
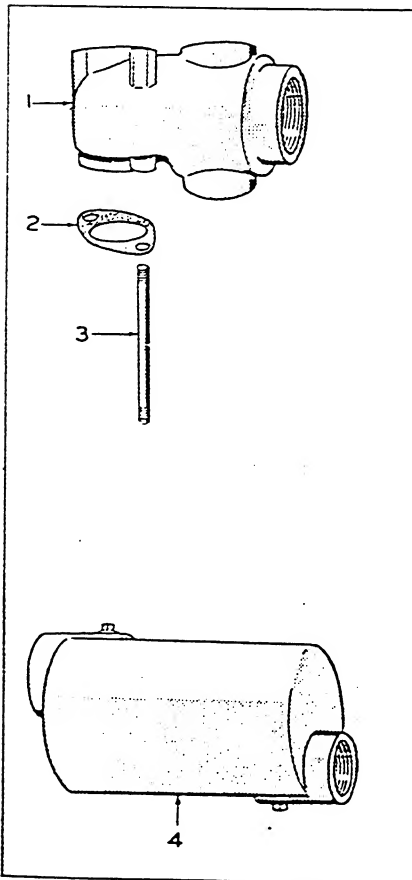


FIG.F-MUFFLER GROUP

FIG.G-FUEL PUMP GROUP

FIG.H-MOUNTING GROUP

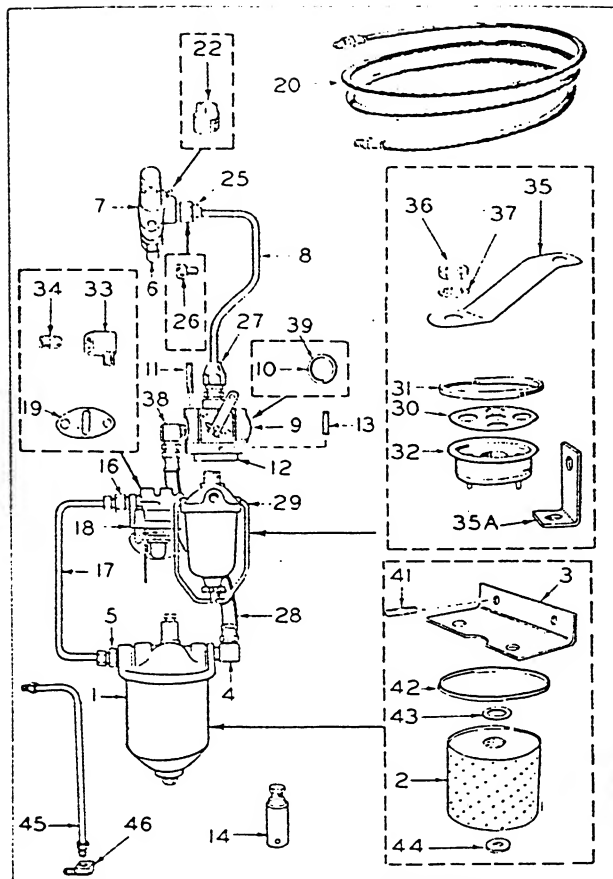


FIG. J-FUEL SYSTEM GROUP

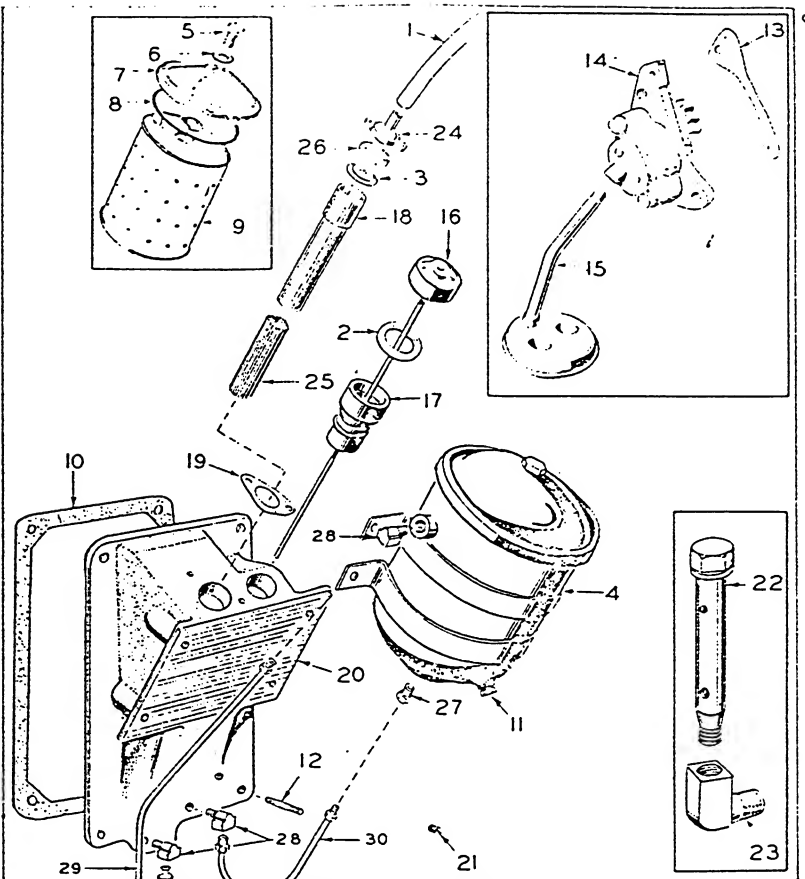


FIG. K-OIL SYSTEM GROUP

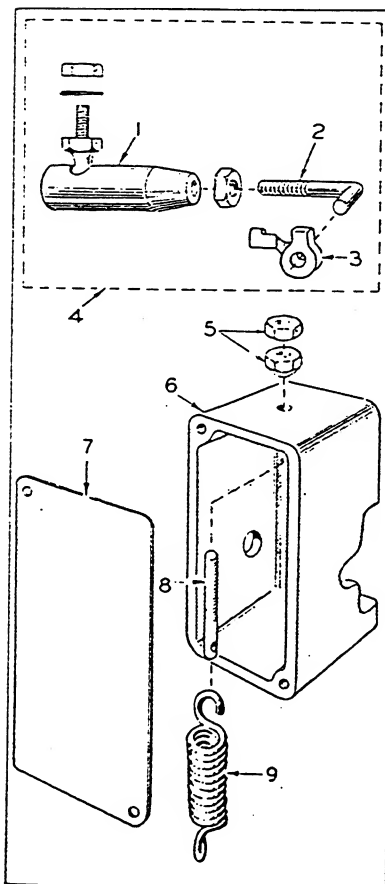


FIG. L-GOVERNOR GROUP

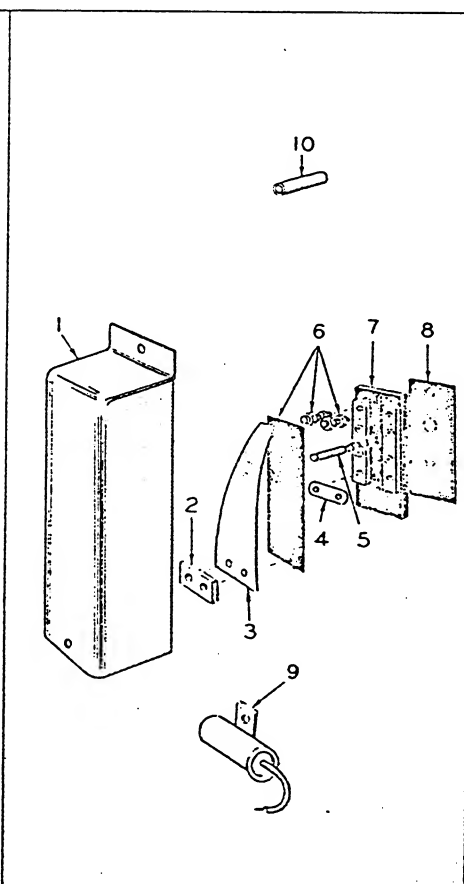


FIG. M-ANTI-FLICKER GROUP

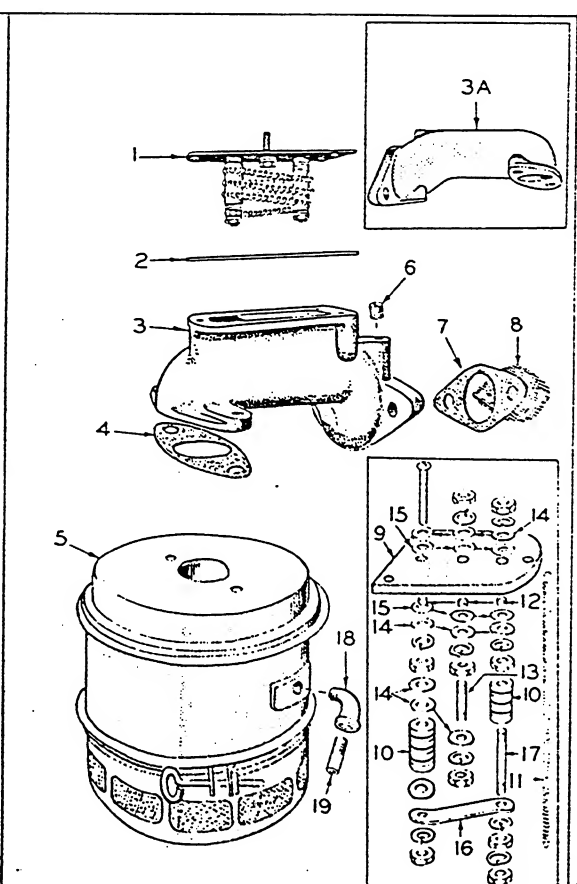


FIG. N-AIR CLEANER GROUP

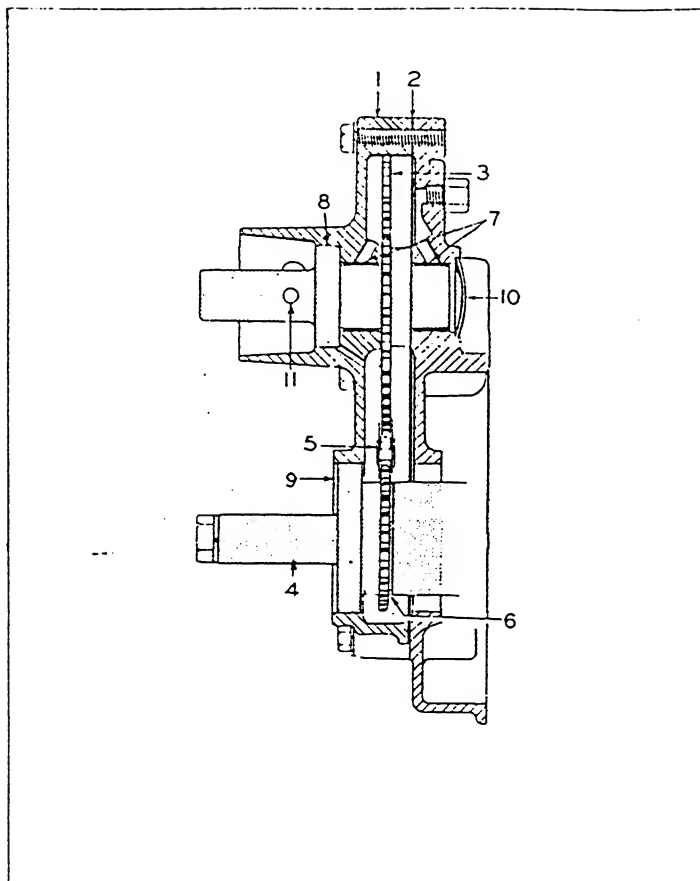


FIG.O-HAND CRANKING & POWER TAKE-OFF GROUP

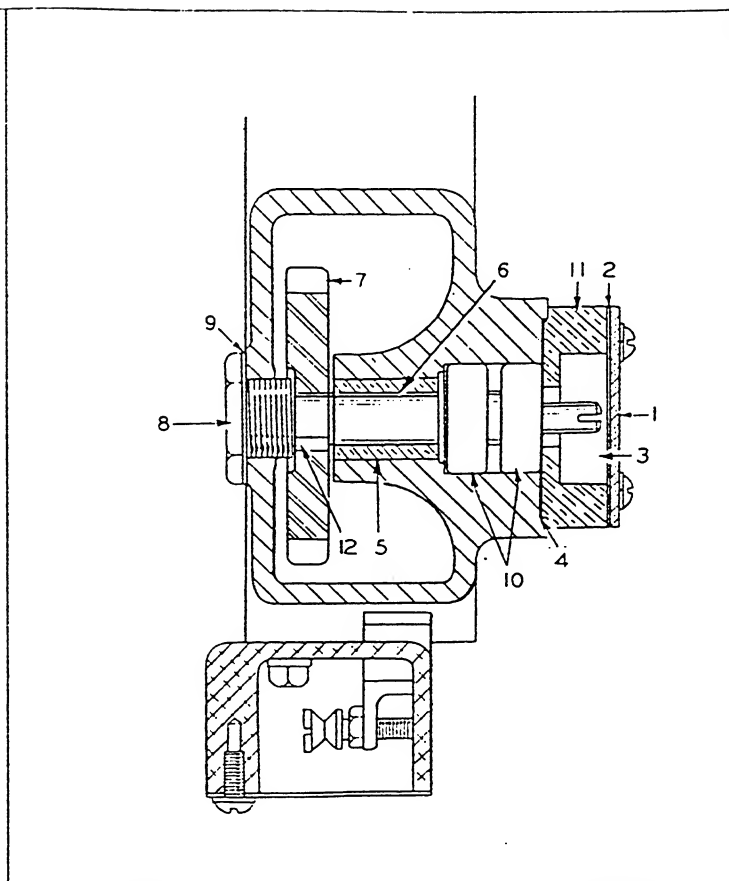


FIG.P-WATER PUMP PARTS GROUP

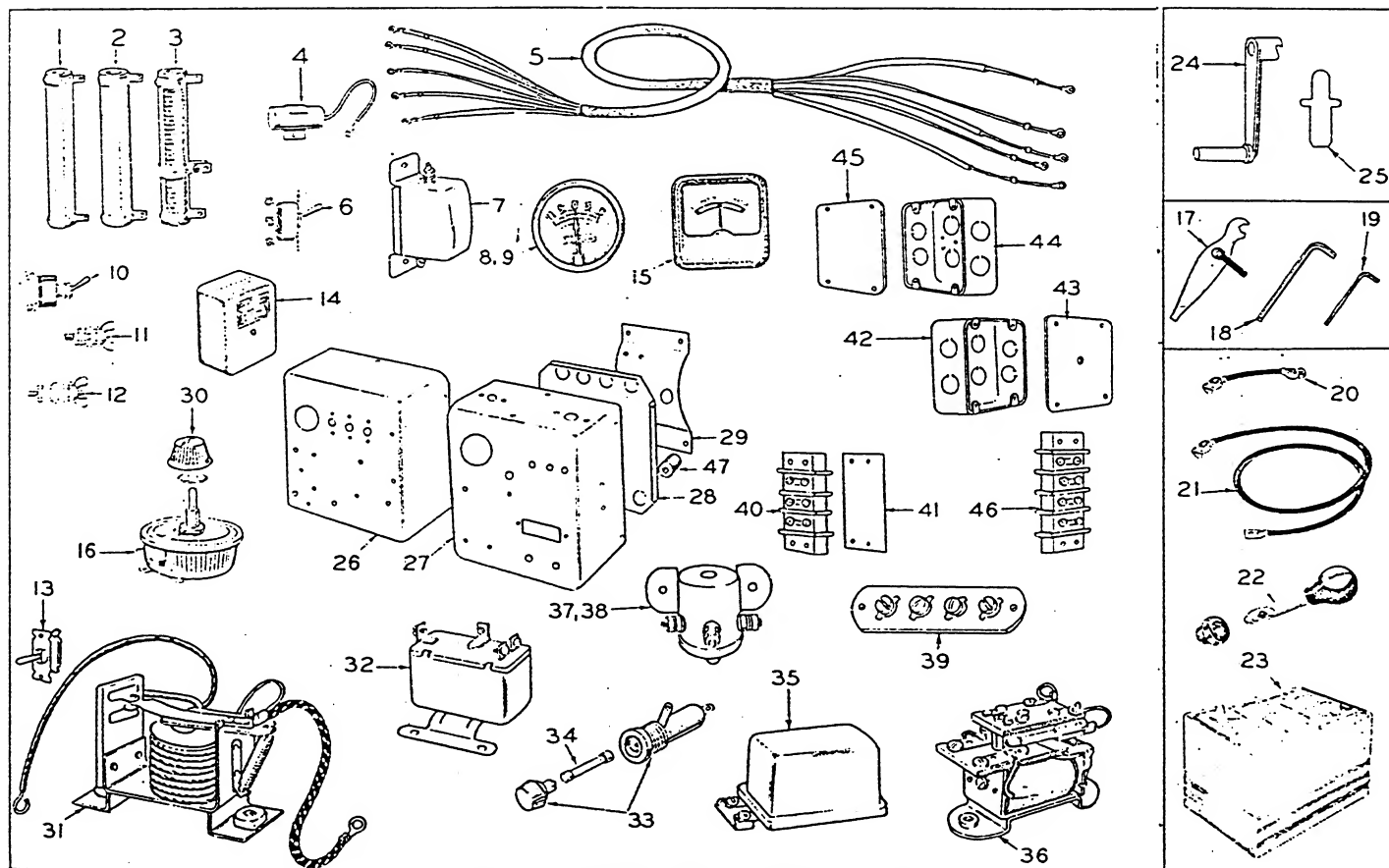


FIG.Q - CONTROL PANEL GROUP

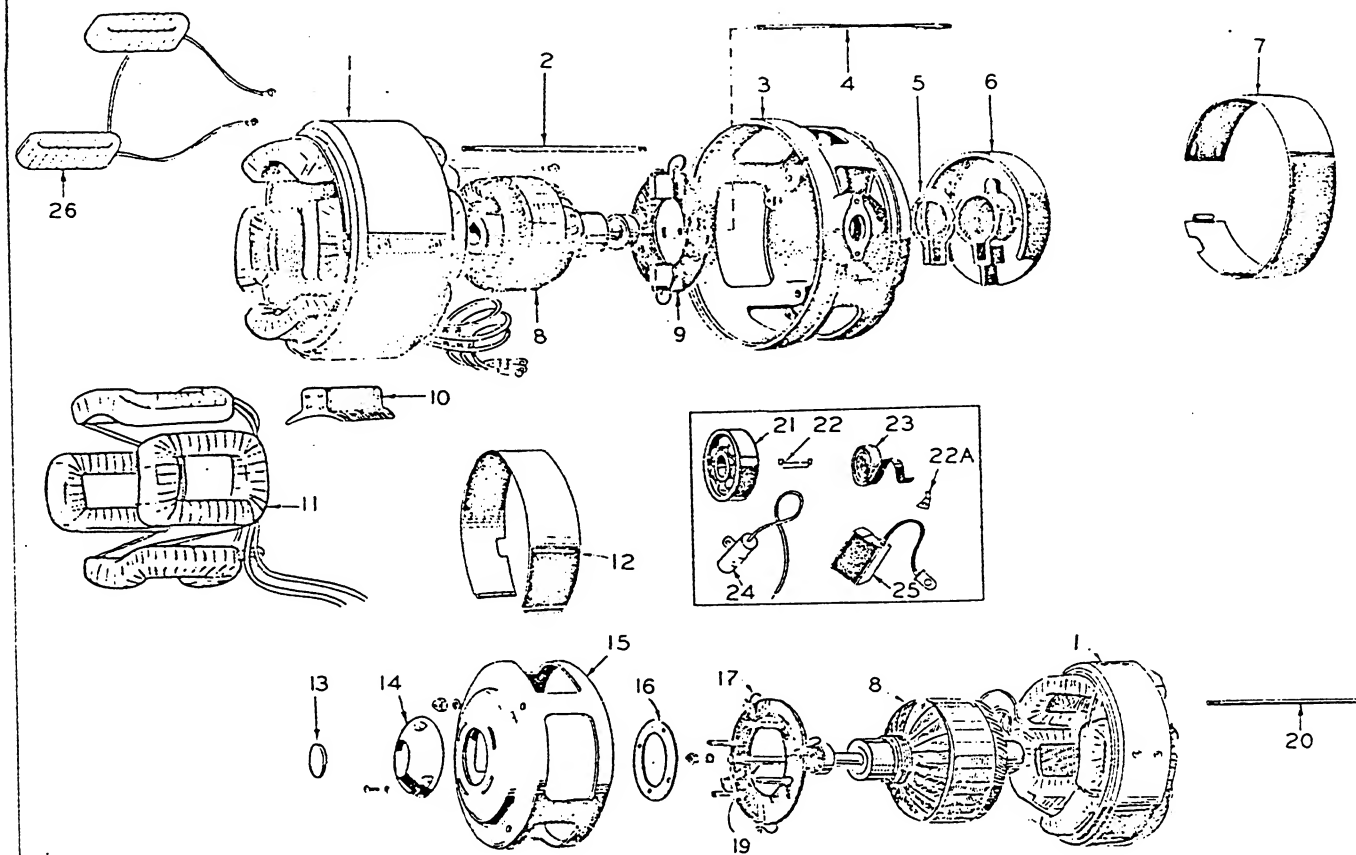


FIG. R-GENERATOR GROUP

REF. NO.	PART NO.	DESCRIPTION	QUANT USED
FIG. A - CYLINDER & GEAR COVER GROUP			
1	101K220	Bearing Kit, Crankshaft - Includes 1 Bearing and Lock Pin - Precision Type - Replaces #101A66 - Front or Rear - Specify: Standard, .002" Undersize for worn engine, or .020" Undersize for remachined crankshaft journal	2
2	101A70	Bearing, Camshaft - Front	1
3	101A50	Bearing, Camshaft - Rear	1
5	103D123	Gearcase Assembly - Complete with Chain Cover, Governor Parts and Water Pump Parts. ORDER COMPONENT PARTS SEPARATELY. See also Hand Cranking Group and Water Pump Group	
5	103A126	Gearcase Only - Includes one Seal and Bearings for the Governor Shaft. Excludes all other parts. NOTE: The factory will cooperate with your specific request for replacement gearcase other than listed	1
6	103B36	Gasket, Gearcase	1
7	520A163	Stud, Cylinder Head - 7/16" x 3-3/4"	2
8	520A149	Stud, Cylinder Head - 7/16" x 2"	1
8	520A454	Stud, Cylinder Head - 7/16" x 3"	2
8	520A455	Stud, Cylinder Head - 7/16" x 3-1/4"	2
9	120B291	Line, Oil - Rocker Arm Pressure	1
10	403A95	Bolt, Eye	1
11	517-18	Plug, Welch - Camshaft - 1-5/8" diameter	1
12	502-41	Elbow, Inverted Male - Oil Line (434 x 4)	1
13	520A118	Stud, Flywheel Housing - 3/8" x 1-1/2"	4
14	101-137	Housing, Flywheel (Replaces Housing #101D107)	1
14A	231D40	Adapter, Generator (Not used on 32 Volt Battery Charger)	1
14B	231D42	Adapter, Generator (32 Volt Battery Charger only)	1
15	516A72	Pin, Bearing Lock	2
16	520A339	Stud, Generator Adapter - 3/8" x 2"	4
17	193-6	Gauge, Oil Pressure (Replaces Gauge #193-33)	1
18	502A94	Fitting, Restricted - Oil Gauge	1
22	520A11	Stud, Bearing Plate - 5/16" x 1-7/16"	8

WHEN ORDERING PARTS BE SURE TO INCLUDE MODEL, SERIAL AND SPEC. NUMBER OF UNIT

REF. NO.	PART NO.	DESCRIPTION	QUANT USED
FIG. A - CYLINDER & GEAR COVER GROUP (Cont.)			
23	520A456	Stud, Gearcase - 5/16" x 2-1/2"	3
23	520A457	Stud, Gearcase - 5/16" x 3-1/8" (Prior to Serial #499556 quantity used was 4)	3
23	520A367	Stud, Gearcase and Primary Filter - 5/16" x 3-1/4" (Use Begin w/Serial #499556)	1
24	120A289	Line, Oil - Cylinder Head Drain	1
25	101K116	Kit, Gasket - Rear Bearing Plate	1
26	101C67	Plate only, Rear Bearing	1
27	509P64	Seal, Oil - Crankshaft Rear (Replaces either #509-17 or #509A48 Seal)	1
28	110A766	Block Assembly, Cylinder - Includes Bearing Plate, Bearings, Pin and Plugs	1
29	505-78	Nipple, Oil Drain Pipe - 1/2" x 2-1/2"	1
30	505-14	Coupling, Oil Drain Pipe - 1/2"	1
31	505-56	Plug, Oil Drain Pipe - 1/2"	1
32	510-14	Bearing, Ball - Governor Shaft	1
33	510-8	Bearing, Needle - Governor Shaft (small)	1
34	150A229	Collar, Governor Shaft	1
35	510-13	Bearing, Needle - Governor Shaft (Large)	1
36	509-8	Seal, Oil - Governor Shaft	1
38	150A447	Arm and Shaft Assembly, Governor	1
39	150A233	Spring, Governor Yoke (Use with Yoke drilled for Cotter Pin)	1
39A	526-140	Washer, Governor Yoke (Use with Yoke NOT drilled for Cotter Pin - Yoke has retaining ring groove)	1
40	150A620	Yoke Assembly, Governor - Includes Yoke, Washer & Retainer Ring (Replaces #150A236).	1
41	502-3	Connector, Inverted Male - 200 x 4 - Gearcase	1
42	150A207	Stud, Governor Spring Sensitivity Adjustment	1
43	516-63	Pin, Groove - Flywheel Timing Hole Indicator	1
46	516-37	Pin, Cotter - Governor Yoke - 1/16" x 1/2" (Use only on Yoke drilled for Cotter Pin) ..	1
46A	518-129	Ring, Yoke Retaining (Use on Yoke NOT drilled for Cotter Pin - Yoke has retaining ring groove)	1
47	309-52	Switch, Low Oil Pressure Cut-off (For ungrounded system) 32 Volt Battery Charger only.	1
47	309-14	Switch, Low Oil Pressure Cut-off (For grounded system) AC Models Only	1

WHEN ORDERING PARTS BE SURE TO INCLUDE MODEL, SERIAL AND SPEC. NUMBER OF UNIT!

REF. NO.	PART NO.	DESCRIPTION	QUANT USED
FIG. A - CYLINDER & GEAR COVER GROUP (Cont.)			
48	131B97	Line, Water - Exhaust Manifold to Cylinder Block (Use Prior to Serial #500898)	1
48	131B106	Line, Water - Exhaust Manifold to Cylinder Block (Use Begin w/Serial #500898)	1
49	131B98	Line, Water - Water Pump to Exhaust Manifold (Use Prior to Serial #500898)	1
49	131B105	Line, Water - Water Pump to Exhaust Manifold (Use Begin w/Serial #500898)	1
50	502A180	Elbow, Restricted Street - Oil Pressure Switch - 32 Volt Battery Charger only	1
51	502-42	Elbow, Inverted Male - 434 x 5 - Cylinder Block Water Line	1
52	505-17	Bushing, Pipe Reducer - 3/8" to 1/4"	1
53	502-178	Plug, Pipe - 1/4" Sq. Head Brass - 3151 x 4 - Cylinder Water Jacket Drain	1
54	517-17	Plug, Welch - 1" Diameter - Cylinder Water Jacket (Use Prior to Serial #490298)	4
54	517-41	Plug, Welch - 1-1/8" Diameter - Cylinder Water Jacket (Use Begin w/Serial #490298)..	4
55	110A445	Nut, Hex - 5/16" - 24 Hardened (8) Bearing Plate, (7) Gearcase	15
FIG. B - CAMSHAFT GROUP			
1	150A78	Ring, Snap - Center Pin	1
2	150B281	Cup Assembly, Governor	1
3	510-15	Flyball, Governor	10
4	150B85	Spacer, Ball	1
5	150A77	Plate, Governor Ball	1
6	516A71	Pin, Governor Cup Drive - 1/8" x 5/8"	1
8	515-1	Key, Woodruff - #3 - Camshaft Gear	1
9	105-74	Gear Set - Includes Cam and Crank Gears	1
10	105A42	Washer, Camshaft Thrust (2 or 3 required)	As Req.
11	105-84	Camshaft - Includes Center Pin	1
12	150A75	Pin, Camshaft Center	1

WHEN ORDERING PARTS BE SURE TO INCLUDE MODEL, SERIAL AND SPEC. NUMBER OF UNIT!

REF. NO.	PART NO.	DESCRIPTION	QUANT USED
FIG. C - CRANKSHAFT & FLYWHEEL GROUP			
4	518-16	Ring, Snap - Crankshaft Gear Retainer	1
5	105-74	Gear Set - Includes Crank and Cam Gears	1
6	515-1	Key, Woodruff #3 - Crankshaft Gear	1
7	104A189	Crankshaft (Use with Forged Steel Connecting Rod)	1
8	515-90	Key, Flywheel	1
9	104A95	Washer, Crankshaft Gear Retainer	1
10	104C60	Flywheel	1
11	516-92	Pin, Roll - Power Take Off	2
11	516A64	Pin, Groove - 5 1/16" x 1-1/8" - Flywheel	2
FIG. D - PISTON & CONNECTING ROD GROUP			
1	113A53	Ring Set, Piston - Specify: Standard, .010", .020", .030" Oversize - Includes (1) 113A43, (2) 113A15 & (2) 113A49 - NOTE: 113K55 will work	1
2	112-50	Piston and Pin Assembly - Specify: Standard, or .010", .020", .030" Oversize - 5 Groove	1
3	112A16	Pin, Piston - Specify: Standard or .002" Oversize	1
4	112A19	Retainer, Piston Pin - Included in Piston Assembly	2
5	114B52	Rod, Connecting - Forged Steel (Includes Bushings and Bearings) Specify: Standard or .020" Undersize	1
6	114A20	Washer, Lock - Connecting Rod	2
7	113A43	Ring, Top Compression - Specify: Standard or .010", .020", .030" Oversize	1
8	113A15	Ring, Compression - Lands 2 & 3 - Specify: Standard or .010", .020", .030" Oversize ..	2
9	113A49	Ring, Oil Control - Lands 4 & 5 - Specify: Standard or .010", .020", .030" Oversize ..	2
10	114A54	Bushing, Connecting Rod - Wrist Pin - Semi-Finished - Used w/Forged Steel Rod	2

WHEN ORDERING PARTS BE SURE TO INCLUDE MODEL, SERIAL AND SPEC. NUMBER OF UNIT!

REF. NO.	PART NO.	DESCRIPTION	QUANT USED
FIG. D - PISTON & CONNECTING ROD GROUP (Cont.)			
11	114B53	Bearing Half, Connecting Rod - Precision Type - Used w/Forged Steel Rod - Specify: Standard or .020" Undersize	2
	114A57	Screw, Hex Head Cap - 3/8"-24 x 1-1/2" - Use w/Forged Steel Rod	2
FIG. E - CYLINDER HEAD & VALVE GROUP			
NOTE: A Dual Purpose Model referred to in this group is a combination 115 Volt AC and 32 Volt DC (1R4)			
1	115A16	Shaft, Rocker Arm - Includes Plug	1
2	115A35	Arm, Intake Valve Rocker	1
2	115A41	Arm Assembly, Intake Valve Rocker - Includes Arm, Ball, Wick and Screw	1
3	115A17	Spring, Rocker Arm	1
4	115A36	Arm, Exhaust Valve Rocker	1
4	115A40	Arm Assembly, Exhaust Valve Rocker - Includes Arm, Ball, Wick and Screw	1
5	104A124	Washer, Rocker Arm Spacer (quantity 4 to 8)	As Req.
6	815-85	Screw, Set - Compression Release - Replaces 115-42	1
7	115A39	Wick, Oil - Rocker Arm Ball	2
8	115A37	Ball, Rocker Arm	2
9	115A38	Retainer, Rocker Arm Ball	2
10	110A501	Lock, Valve Spring Retainer	4
11	110A500	Retainer, Valve Spring	2
12	110A236	Spring, Valve	2
13	110A499	Guide, Valve	2
14	509P18	"O" Ring- Push Rod Shield - 7/8" O.D. x 3/32" diameter (2) Upper, (2) Lower	4
15	516A4	Pin, Groove - Rocker Arm Shaft - 3/16" diameter x 13/16"	1
16	115A18	Screw, Rocker Arm Shaft	2
17	147B15	Nozzle Assembly	1

WHEN ORDERING PARTS BE SURE TO INCLUDE MODEL, SERIAL AND SPEC. NUMBER OF UNIT!

REF. NO.	PART NO.	DESCRIPTION	QUANT USED
FIG. E - CYLINDER HEAD & VALVE GROUP (Cont.)			
18	800-52	Screw, Hex Head Cap - 3/8"-16 x 1-1/2" Nozzle	2
19	520A223	Stud, Air Cleaner Adapter Mounting - 5/16" x 1-1/4"	2
20	509P18	"O" Ring - Rocker Arm Shaft - 7/8" O.D. x 3/32" diameter	2
21	147-16	Nozzle Only	1
22	520A149	Stud, Cylinder Head - 7/16" x 2"	1
23	110B696	Gasket, Cylinder Head	1
24	110A720	Head Assembly, Cylinder - Includes Valve Guides and Seal - Less Valves and Nozzle..	1
24	110A747	Head Assembly, Cylinder - With Valves - Less Nozzle	1
25	147A43	Gasket, Nozzle Adapter	1
26	110A496	Valve, Intake	1
27	110A498	Valve, Exhaust - Stellite Faced	1
28	115A22	Shield Assembly, Push Rod - Includes "O" Ring 509-18	2
29	115A51	Rod Assembly, Push	2
30	115A8	Tappet, Valve	2
31	110C705	Cover, Valve Box	1
32	110A704	Gasket, Valve Box Cover	1
33	110A67	Nut, Cylinder Head	8
34	526A34	Washer, Cylinder Head Nut	8
35	147A44	Shield, Nozzle Heat	2
36	110A419	Gasket, Fuel Cup	1
37	110A343	Insert, Valve Seat	1
38	110A546	Gasket, Glow Plug (Included in #333K14)	1
39	333K14	Plug, Glow - Includes Gasket and Terminal	1
40	147A59	Bushing, Nozzle	1
41	306C49	§Solenoid Assembly - Decompression Release - 12 Volt grounded system	1
41	306C91	•Solenoid Assembly - Decompression Release - 32 Volt grounded system	1
41	306C94	‡Solenoid Assembly - Decompression Release - 32 Volt ungrounded system	1
42	131B87	Cover, Water Outlet Housing	1
43	131A89	Gasket, Water Outlet Housing Cover	1
44	309-54	Thermostat - 157-162°	1

WHEN ORDERING PARTS BE SURE TO INCLUDE MODEL, SERIAL AND SPEC. NUMBER OF UNIT!

REF. NO.	PART NO.	DESCRIPTION	QUANT USED
FIG. E - CYLINDER HEAD & VALVE GROUP (Cont)			
45	131B86	Housing, Water Outlet	1
46	131A88	Gasket, Water Outlet Housing to Head	1
47	115A48	Nut, 3/8"-16 - Rocker Arm Adjusting Screw	2
48	526-63	Washer, Copper Flat - Valve Compartment Cover	2
49	502-48	Tee, Inverted - 752 x 4 - Rocker Arm Shaft Oil Line	1
50	306A47	⊙Spring, Solenoid Plunger (Used only on early design #306A65 Plunger & Retainer. To convert to improved design use Plunger and Retainer Assembly #306A145)	1
51	306A145	⊙Plunger & Retainer, Solenoid - Includes Plunger, Guide, Spring and Retainer (Replaces earlier design #306A65).....	1
52	516-54	⊙Pin, Solenoid Plunger	1
53	509-31	⊙"O" Ring - Solenoid Plunger	1
54	509P18	⊙"O" Ring - Solenoid Assembly to Head - 7/8" O.D. x 3/32" diameter	1
55	518-115	★Ring, Snap - Compression Release	1
56	509P18	★"O" Ring - Compression Release (7/8" O.D. x 3/32" diameter)	1
57	110A376	★Adapter, Compression Release Shaft	1
58	190A66	★Spring, Compression Release Shaft Adapter	1
59	110A624	★Bracket, Compression Release Stop	1
60	110B626	★Release Assembly, Compression (Manual) Includes Reference Numbers 55, 56, 57, 58, 59 & 61	1
61	110A625	★Shaft Assembly, Compression Release	1
	309B51	‡Switch - HI-Water Temperature Cut-off - (For ungrounded system)	1
	309B47	⊗Switch - HI-Water Temperature Cut-off - (For grounded system)	1
	502-3	Connector - Inverted Male - 200 x 4 - Cylinder Head Oil Drain	1
	502-178	Plug, Pipe - Square Head Brass - 3151 x 4 - Water Jacket Drain	1
	505-266	Plug, Pipe - 3/8" Square Countersunk - Head Water Jacket	1
	505-53	Plug, Slotted - 1/8" x 3/8" - Rocker Arm Shaft	1
	505-57	Plug, Pipe - 1/8" Square Head Steel (Replaces Plug #505-12)	1
	505-54	Plug, Pipe - 1/4" Square Head Steel (Replaces Plug #505-55)	1

WHEN ORDERING PARTS BE SURE TO INCLUDE MODEL, SERIAL AND SPEC. NUMBER OF UNIT!

REF. NO.	PART NO.	DESCRIPTION	QUANT USED
FIG. E - CYLINDER HEAD & VALVE GROUP (Cont.)			
	505-58	Plug, Pipe - 3/8" - Exhaust Manifold	1
		§ = Use on All AC Models except Dual Purpose. • = Use on Dual Purpose Models Only. ¶ = Use on 32 Volt Battery Charger Only. ⊙ = Use on All Models except 110-140 Volt Battery Charger. ★ = Use only on 110-140 Volt Battery Charger. ⊗ = Use only on AC Models.	
FIG. F - MUFFLER GROUP			
1	155C361	Elbow, Exhaust	1
2	154A62	Gasket, Manifold	1
3	520A458	Stud, Exhaust Elbow - 5/16" x 3-5/8" (Not used on 110-140 Volt Battery Charger)	2
3	520A144	Stud, Exhaust Elbow - 5/16" x 3-3/4" (110-140 Volt Battery Charger only)	2
4	155C234	Muffler, Exhaust - (Silencer)	1
	502-42	Elbow, Inverted Male - 434 x 5	1
	502-35	Connector, Inverted Male - 234 x 5	1
	505-17	Bushing, Pipe Reducer - 3/8" to 1/4"	2
	505-16	Plug, Pipe - 3/8" Square Head Iron	1

*Note 505-17 should have been 505-18 (see 4)
 also check 505-16 and 505-17 in part 155C361
 we failed to catch this. To get 505-17 and 505-16*

WHEN ORDERING PARTS BE SURE TO INCLUDE MODEL, SERIAL AND SPEC. NUMBER OF UNIT

REF. NO.	PART NO.	DESCRIPTION	QUANT USED
FIG. G - FUEL TRANSFER PUMP GROUP			
NOTE: Parts apply to Onan or Blaking Mfr. pumps except as specified.			
	149C543	Pump, Fuel Transfer - ONAN Mfr., with Primer Lever - Replaces earlier style Blaking Pump #149C162	1
	149K526	Repair Kit, Fuel Pump - Includes parts marked (*) - If not available use 149K74	1
1		Body, Upper - Not sold Separately	x
2	815-105	Screw, Fillister - Body Assembly (Blaking Mfr. Pump)	4
2	815-148	Screw, Hex Head - #8-32 x 7/8 - Pump Assembly (ONAN Mfr. Pump)	4
3	815-147	Screw, Phillips Flat Head Self Tapping - #6-32 x 5/8" - Valve Retainer - ONAN Mfr. pump only	2
3	814-62	Screw, Flat Head - #6-32 x 7/16" - Blaking Mfr. pump only	2
4	149-96	*Valve and Cage	2
5	149A95	*Gasket, Valve	2
6	149A582	*Diaphragm Assembly (Replaces Diaphragm #149A97)	1
7	149A93	*Spring, Diaphragm	1
8	149A539	Retainer, Valve Cage - ONAN Mfr. pump only	1
8	149A84	Retainer, Valve Cage - Blaking Mfr. pump only	1
9	149A94	*Spring, Rocker Arm	1
10	516A113	Pin, Rocker Arm (Replaces Pin #516A25)	1
11		Body, Lower - Not Sold Separately	x
12	149A87	Link, Rocker Arm (Replaces Link #149A544)	1
13	149A86	Arm, Rocker (Replaces Arm #149A545)	1
14	149A551	Lever, Hand Primer - ONAN Mfr. pump only (Not sold Separately for Blaking Mfr. pump)	1
15	509-85	Seal, "O" Ring - ONAN Mfr. pump only	2
16	149A404	Spring, Fuel Pump Priming Lever - ONAN pump	1
17	149A3	*Gasket, Fuel Pump Mounting	1
18	518-129	Ring, Retainer - Hand Primer Lever (ONAN Mfr. pump only)	1
	149A159	*Gasket, Retainer Spacing - Blaking pump only	2

WHEN ORDERING PARTS BE SURE TO INCLUDE MODEL, SERIAL AND SPEC. NUMBER OF UNIT

REF. NO.	PART NO.	DESCRIPTION	QUANT USED
FIG. H - MOUNTING GROUP			
1	403D222	Base, Mounting - C.I.	1
2	405C746	Pan, Drip (Spill)	1
3	402A124	Dampener, Vibration - Short, for mounting at engine end - Replaces Dampener #402A61.	2
4	402A100	Dampener, Vibration - Long, for mounting at generator end	2
FIG. J - FUEL SYSTEM GROUP			
1	149C408	Filter Assembly, Secondary Fuel	1
2	149P428	Cartridge, Secondary Fuel Filter - Fram C-1110PB, replaces C-1110PB2	1
3	149A421	Bracket, Secondary Fuel Filter Mounting	1
4	502-54	Elbow, Street - 3400 x 4 - Secondary Filter Outlet	1
5	502-33	Connector, Inverted Male - 234 x 4 - Secondary Filter Inlet	1
6	147-16	Nozzle Only	1
7	147B15	Nozzle Assembly	1
8	149A412	Pipe Assembly, Fuel - Injection Pump to Nozzle	1
9	147C25	Pump Assembly, Injection	1
10	509-21	"O" Ring, Injection Pump - 1-3/8" O.D. x 1/8" diameter	2
11	520A94	Stud, Injection Pump Mounting - 5/16" x 2-1/2"	2
12	147A1	Adapter, Injection Pump	1
13	520A24	Stud, Injection Pump Adapter Mounting - 1/4" x 1-3/16"	2
14	115A34	Tappet, Injection Pump	1
16	502-3	Connector, Inverted Male (200 x 4) - (1) Transfer Pump, (1) Primary Filter (Prior to Serial #499556)	2
16	502-3	Connector, Inverted Male (200 x 4) - (2) Transfer Pump (1) Primary Filter (Begin w/Serial #499556)	3

WHEN ORDERING PARTS BE SURE TO INCLUDE MODEL, SERIAL AND SPEC. NUMBER OF UNIT!

REF. NO.	PART NO.	DESCRIPTION	QUANT USED
FIG. J - FUEL SYSTEM GROUP (Cont.)			
17	149A433	Line, Fuel - Transfer Pump to Secondary Filter	1
18	149C543	Pump Assembly, Fuel Transfer - with Priming Lever (Replaces Pump #149C162)	1
19	149A3	Gasket, Fuel Transfer Pump Mounting	1
20	501A7	Line, Flex Fuel - Tank to Filter - Nozzle to Tank	2
22	505-57	Plug, Pipe - 1/8" - Nozzle (Replaces Plug #505-12)	1
25	147-19	Nut, Fuel Pipe Coupling - (Nozzle End) - Metric Thread	1
26	147-4	Ring, Coupling - Fuel Pipe	2
27	147-3	Nut, Fuel Pipe Coupling - (Pump End)	1
28	501A63	Line, Flexible Fuel - Secondary Filter to Injection Pump	1
29	149B426	Filter Assembly, Primary Fuel	1
30	149P494	Gasket, Fibre - Primary Filter Element to Cover	1
31	149P439	Gasket, Neoprene - Primary Filter Bowl to Cover	1
32	149P438	Element, Primary Filter - Brass Disc Permanent Type - Order Gaskets Separately ...	1
33	502-20	Elbow, Street - 3400 x 2 - Filter to Transfer Pump- Prior to Serial #499556	1
34	502-82	Nipple, Brass Hex - Filter to Transfer Pump (Prior to Serial #499556) Replaces Iron Close Nipple	1
35	149A423	Bracket, Primary Fuel Filter Mounting - Prior to Serial #499556 (Use Bracket #149A547, Connector #502-3, Fuel Line #159A474, Elbow #502-2 and Gear Cover Stud #520A367)	x
35A	149A547	Bracket, Primary Fuel Filter Mounting - Begin w/Serial #499556	1
36	868-7	Nut, Hex Jam - 5/8"-18 - Mounting Primary Filter	1
37	854-28	Washer, Internal Tooth - 5/8" - Mounting Primary Filter	1
38	149A430	Elbow with Strainer - 400 x 6 modified - Injection Pump Inlet	1
39	147P58	Washer Kit, Injection Pump Control Sleeve - Includes (2) Washers, (1) "O" Ring and (2) Snap Rings	1
41	520A29	Stud, Secondary Filter Mounting - 1/4" x 1"	2
42	149P456	Gasket, Secondary Filter - Bowl to Cover - Permanently cemented in place	1
43	149P455	Gasket, Secondary Filter - Cartridge to Head - Permanently cemented in place	1
44	149P493	Gasket, Secondary Filter - Cartridge to Retainer	1

WHEN ORDERING PARTS BE SURE TO INCLUDE MODEL, SERIAL AND SPEC. NUMBER OF UNIT!

REF. NO.	PART NO.	DESCRIPTION	QUANT USED
FIG. J - FUEL SYSTEM GROUP (Cont.)			
45	159A474	Line, Fuel - Primary Filter to Transfer Pump - Begin w/Serial #499556	1
46	502-2	Elbow, Inverted Male - Primary Filter Outlet - Begin w/Serial #499556	1
	147-33	Gasket, Nozzle Cap	2
FIG. K - OIL SYSTEM GROUP			
1	123A413	Tube, Breather - 8", Flexible	1
2	123A191	Gasket, Oil Filler Cap	1
3	123A315	Valve Assembly, Check	1
4	122C56	Filter Assembly, Oil - Includes Cartridge	1
5	122-47	Screw, Oil Filter Cover Cap	1
6	122-48	Washer, Oil Filter Cover Cap Screw	1
7	122-35	Cover Assembly, Oil Filter	1
8	122-36	Gasket, Oil Filter Cover Assembly	1
9	122-37	Cartridge, Oil Filter Replacement - Includes Gaskets	1
10	122B30	Gasket, Oil Fill & Breather Tube Mounting Bracket	1
11	505-57	Plug, Pipe - 1/8" Oil Filter Drain (Replaces Plug #505-12)	1
12	520A11	Stud, Oil Fill & Breather Bracket - 5/16" x 1-7/16"	5
13	120A192	Gasket, Oil Pump Mounting (Included in Pump Gasket Kit #120K161)	1
14	120A184	Pump Assembly, Oil	1
15	120A88	Cup Assembly, Oil Suction	1
16	123B291	Indicator Assembly, Oil Level	1
17	123A313	Tube Assembly, Oil Fill	1
18	123A298	Tube, Breather (Steel)	1
19	123A346	Gasket, Breather Tube Cap	1
20	122D76	Bracket, Oil Fill & Breather Tube Mounting	1
22	120A225	By-Pass Assembly, Oil	1

WHEN ORDERING PARTS BE SURE TO INCLUDE MODEL, SERIAL AND SPEC. NUMBER OF UNIT!

REF. NO.	PART NO.	DESCRIPTION	QUANT USED
FIG. K - OIL SYSTEM GROUP (Cont.)			
23	502-99	Elbow, Reducing - By-Pass - 3404 x 2	1
24	123A336	Cap, Breather Tube	1
25	123A312	Baffle, Breather Tube	1
26	123A347	Spacer, Breather Valve	1
27	502-3	Connector, Inverted Male - Oil Drain Line	1
28	502-2	Elbow, Inverted Male - (2) Pressure Line, (1) Drain Line	3
29	122A64	Line, Oil Filter Pressure	1
30	122A65	Line, Oil Filter Drain	1
FIG. L - GOVERNOR GROUP			
1	150A300	Joint, Ball	1
2	150A368	Link, Governor	1
3	518-4	Clip, Rod End	1
4	150A369	Linkage Assembly, Governor	1
5	870-53	Nut, Hex - #10-32	2
5	150A398	Nut, Spherical Face - Governor Speed Adjusting - #10-32 x 5/16"	1
6	150B7	Box, Governor Spring Mounting	1
7	150A47	Cover, Governor Spring Mounting Box	1
8	150A96	Stud, Governor Adjusting	1
9	150A98	Spring, Governor	1

WHEN ORDERING PARTS BE SURE TO INCLUDE MODEL, SERIAL AND SPEC. NUMBER OF UNIT!

REF. NO.	PART NO.	DESCRIPTION	QUANT USED
FIG. M - ANTI-FLICKER GROUP (AC MODELS ONLY)			
1	166A97	Cover, Breaker	1
2	166A67	Strip, Breaker Spring	1
3	166A49	Dampener, Breaker Spring	1
4	306A3	Strip, Breaker Connector	1
5	166A44	Plunger, Flicker Control	1
6	160-176	Point Set	1
7	166A90	Insulator Assembly	1
8	166A48	Insulator, Mounting Strip	1
9	312A57	Condenser, 1.0 Mfd. - Mounted in Control Panel	1
10	166A45	Tube, Guide - Plunger	1
FIG. N - AIR CLEANER & HEATER GROUP			
NOTE: A Dual Purpose Model referred to in this group is a combination 115 Volt AC & 32 Volt DC (1R4)			
1	140B275	†Heater Assembly, Air Intake - Complete Unit	1
2	140A156	†Gasket, Heater Assembly	1
3	140B157	†Adapter, Air Cleaner - With Provision for Air Heater	1
3A	140B114	▲Adapter, Air Cleaner - No Provision for Air Heater	1
4	154A43	Gasket, Air Cleaner Adapter	1
5	140C300	Cleaner (Silencer), Air	1
6	505-8	Plug, Slotted Head - 1/8" Pipe - Air Cleaner Adapter	1
7	154A104	Gasket - Air Intake Adapter to Head (Note: Quantity is 2 on Units w/Heater)	1
8	154A105	†Screen - Air Intake Adapter to Head	1
9	140A273	†Cover, Air Cleaner Adapter	1
10	140A160	†Support, Heater Element	2
11	140A274	†Element Only, Air Heater	1

WHEN ORDERING PARTS BE SURE TO INCLUDE MODEL, SERIAL AND SPEC. NUMBER OF UNIT!

REF. NO.	PART NO.	DESCRIPTION	QUANT USED
FIG. N - AIR CLEANER & HEATER GROUP (Cont.)			
12	508-16	†Washer, Insulating - Air Heater	9
13	332A203	†Stud, Terminal - Short	1
14	526-62	†Washer, Flat - Brass - Air Heater	9
15	508-32	†Washer, Mica - Heater Insulating	6
16	332A332	†Spacer, Terminal Stud	1
17	332A384	†Stud, Terminal - Long	1
18	505-11	Elbow, Street - 1/4" Pipe - Air Cleaner	1
19	505A10	Nipple, Pipe Half - 1/4" x 1" - Air Cleaner	1
† = Use only on Dual Purpose Models and 32 Volt Battery Chargers. ▲ = Not used on Dual Purpose Models or 32 Volt Battery Chargers.			
FIG. O - HAND CRANKING & POWER TAKE-OFF GROUP			
1	192C260	Cover Assembly, Hand Cranking Chain - Complete with Bearings and Seals	1
2	192B195	Gasket, Chain Cover	1
3	192B200	Sprocket and Shaft - Hand Crank Engaging	1
4	192A202	Sprocket and Hub	1
5	192P227	Chain, Roller-Hand Cranking - 3/8" Pitch Single Strand American Standard	1
6	192A203	Gasket, Metal - Driven Sprocket to Crankshaft	1
7	101A2	Bearing, Sprocket Wheel - (1) Gearcase (1) Chain Cover - NOTE: Line Reaming Re- quired!	2
8	509-45	Seal, Oil - Sprocket Wheel and Crank Engaging Shaft	1
9	509-19	Seal, Oil - Power Take-Off Hub	1
10	517-28	Plug, Welch - 1-1/2" - Sprocket Wheel	1
11	516-104	Pin, Roll - Hand Crank Engaging (Replaces groove pin 516-89)	1
	516-92	Pin, Roll - Gearcase to Chain Cover Alignment	2

WHEN ORDERING PARTS BE SURE TO INCLUDE MODEL, SERIAL AND SPEC. NUMBER OF UNIT!

REF. NO.	PART NO.	DESCRIPTION	QUANT USED
FIG. P - WATER PUMP PARTS GROUP			
NOTE: Water Pump NOT Supplied as a Complete Unit. Parts must be ordered Separately.			
	131K107	Repair Kit, Water Pump - Includes Parts Marked (*)	1
1	131A42	*Nameplate and Cover, Water Pump	1
2	131A44	*Gasket, Water Pump Cover	1
3	131A50	*Impeller, Rubber - Includes Brass Screw #6-32 x 5/8"	1
4	131A43	*Gasket, Water Pump Body - Neoprene	1
5	131A51	Bearing, Bronze - Water Pump Shaft	1
6	131A47	Shaft, Drive - Water Pump	1
7	131A90	Gear, Water Pump Drive	1
8	131A41	Plug, Screw Water Pump - 1" Hex Head	1
9	131A35	Gasket, Water Pump Screw Plug	1
10	509-44	*Seal, Water Pump - (1) Oil (1) Water	2
11	131B45	*Body, Water Pump - Brass	1
12	515A116	Key - Water Pump Gear - 1/8" x 1/8" x 1/4"	1
	502-4	Elbow, Inverted Male - 400 x 5 - Water Pump Outlet Line	1
	502-78	Nipple, Brass Pipe - 3330 x 2 - Water Pump Priming	1
	502-79	Tee, Brass - 3700 x 2 - Water Pump Inlet	1
	502-28	Plug - Brass - 3152 x 2 - Water Pump Priming	1
	502-2	Elbow, Inverted Male - Water Pump Oil Line	1
	120B292	Line, Oil - Water Pump Lubrication	1
FIG. Q - CONTROL PANEL GROUP			
NOTE: A Dual Purpose Model referred to in this group is a combination 115 Volt AC and 32 Volt DC (1R4)			
1	304P32	\$Resistor, Fixed - 15 Ohm	1
1	304-33	\$Resistor, Fixed - 1.5 Ohm - High Charge Rate Circuit	1

WHEN ORDERING PARTS BE SURE TO INCLUDE MODEL, SERIAL AND SPEC. NUMBER OF UNIT!

REF. NO.	PART NO.	DESCRIPTION	QUANT USED
FIG. Q - CONTROL PANEL GROUP (Cont.)			
1	304-262	•Resistor, Fixed - 50 Ohm	1
1	304-257	•Resistor, Fixed - 75 Ohm	1
1	304-45	•Resistor, Fixed - 4 Ohm - Low Charge Rate Circuit	1
2	304-44	\$Resistor, Fixed - 2.5 Ohm - Low Charge Rate Circuit	1
2	304-112	†Resistor, Fixed - 100 Ohm	1
2	304B218	*Resistor, Fixed - 17 Ohm - Glow Plug	1
3	304-51	\$Resistor, Adjustable - 1.5 Ohm - Anti-Flicker	1
3	304-16	•Resistor, Adjustable - 2.5 Ohm - Anti-Flicker	1
4	312A57	⊗Condenser - 1.0 Mfd. - Anti-Flicker	1
4	312A17	*Condenser, Fuse Block to Ground - .5 Mfd.	1
5	338B114	\$Harness, Wiring	1
5	338B111	•Harness, Wiring	1
5	338B110	†Harness, Wiring	1
6	308-37	Switch, Momentary Contact - Glow Plug - All Models	1
7	307B180	\$Relay, Reverse Current	1
8	302-61	•Ammeter, Charge - 30-0-30	1
9	302-58	\$Ammeter, Charge - 10-0-10	1
10	308-7	⊗Switch, Hi-Lo Charge - SPST	1
11	332A166	⊗Post Assembly, Terminal - Grounded	1
12	332A321	⊗Post Assembly, Terminal - Insulated	1
13	308-26	⊗Switch, Start-Stop - SPDT	1
14	307B185	†Relay, Reverse Current	1
14	307B84	*Relay, Reverse Current	1
15	302-64	†Ammeter, Charge - 100-0-100	1
16	303-18	†Rheostat	1
16	303-8	*Rheostat	1
18	417-54	Wrench, Socket Head - #8 Cap - 1/4" Set - All Models	1
19	417-55	Wrench, Socket Head - #4 Cap - #8 Set - Throttle Lever - All Models	1
20	416A4	\$Cable, Jumper - Battery	1

WHEN ORDERING PARTS BE SURE TO INCLUDE MODEL, SERIAL AND SPEC. NUMBER OF UNIT!

REF. NO.	PART NO.	DESCRIPTION	QUANT USED
FIG. Q - CONTROL PANEL GROUP (Cont.)			
21	416A77	\$Cable, Battery	2
22	416A89	\$Hydrometer, Battery	1
23	416P258	\$Battery - 6 Volt - Not Supplied with Generating Plant (Replaces Battery #416-66)	2
24	192C209	Crank, Hand - Manual Start - All Models	1
25	147A51	Gauge, Timing - 1.554"/1.550" Injection Pump Tappet Adjustment - All Models	1
26	301C883	\$Box only, Control	1
26	301C900	•Box only, Control	1
27	301D905	†Box only, Control	1
27	301C930	*Box only, Meter and Relay Control	1
28	301C774	⊙Backplate, Control Box	1
28	301B271	*Backplate, Meter and Relay Control Box	1
29	301B772	Bracket, Control Box Mounting - All Models	1
30	303-32	†Knob, Rheostat	1
31	306A93	•Relay, Reverse Current	1
32	307B81	⊗Relay, Glow Plug	1
33	321P7	†Post, Fuse	1
34	321-27	†Fuse, 15 Amp.	1
35	307B4	⊙Relay, Start or Stop	1
36	307B247	†Relay, Glow Plug - DPST	1
37	307B40	\$Solenoid, Start	1
38	307B61	•Solenoid, Start	1
39	332A222	†Block, Terminal	1
40	332A406	†Block, Terminal - 3 Place	1
41	332A426	†Strip, Terminal Block Marker	1
42	330-11	†Box, Rheostat	1
43	301B910	†Cover, Rheostat Box	1
44	301B886	⊗Box, Outlet	1
45	330-12	⊗Cover, Outlet Box	1
46	332A391	⊗Block, Terminal	1

WHEN ORDERING PARTS BE SURE TO INCLUDE MODEL, SERIAL AND SPEC. NUMBER OF UNIT!

REF. NO.	PART NO.	DESCRIPTION	QUANT USED
FIG. Q - CONTROL PANEL GROUP (Cont.)			
47	402P90	Cushion, Control Panel Mounting - All Models	4
	331-38	⊙Locknut, Close Nipple - 3/4" - Mounting Outlet Box	2
	331-25	⊙Nipple, Close - 3/4" - Mounting Outlet Box	2
	301A885	⊙Washer, Spacer - Mounting Outlet Box	2
	336A875	†Lead, Glow Plug	1
	336A700	*Lead, Glow Plug	1
	332P48	⊗Clip, Tinnerman	1
	332P107	†Clip, Tinnerman	1
	302-98	*Ammeter, DC - 0-25	1
	307-41	*Relay, Start	1
	307-261	*Relay, Glow Plug	1
	332A254	*Block, Terminal - 4 Place - (1) Meter Control Box, (1) Start Button Control Box	2
	332A231	*Block, Terminal - 2 Place	1
	321-17	*Block, Fuse	1
	321-18	*Fuse, 40 Amp	1
	335B37	*Cable Assembly, Connecting - Control Box to Engine - Includes Conduit and Leads	1
	301C818	*Box Only, Start Button Control	1
	301C819	*Backplate, Start Button Control Box	1
	304A185	*Block, Resistor	1
	301A820	*Bracket, Resistor Block Mounting	1
	308A29	*Button, Start	1
† = Use only on Dual Purpose Models and 32 Volt Battery Chargers. \$ = Use on all AC Models except Dual Purpose. • = Use on Dual Purpose Models only. † = Use on 32 Volt Battery Charger only. * = Use only on 110-140 Volt Battery Charger. ⊗ = Use only on AC Models. ⊙ = Use on all Models except 110-140 Volt Battery Charger.			

WHEN ORDERING PARTS BE SURE TO INCLUDE MODEL, SERIAL AND SPEC. NUMBER OF UNIT!

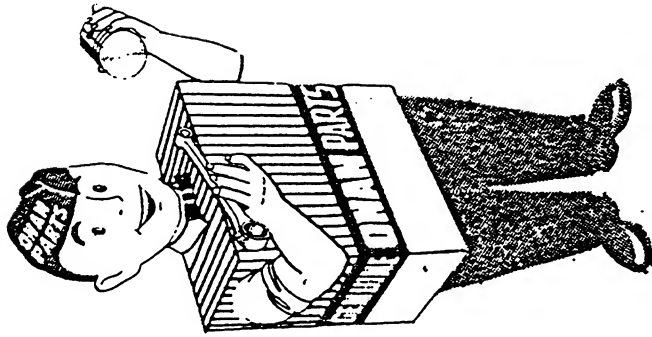
REF. NO.	PART NO.	DESCRIPTION	QUANT USED
FIG. R - GENERATOR GROUP			
NOTE: Dual Purpose Models referred to in this group are combination 115 Volt AC and 32 Volt DC (1R4).			
1	*	Frame Assembly - Includes Coils and Poleshoes	1
2	520A155	Stud, Generator Thru - 5/16" x 11" - DC Models	2
2	520A358	Stud, Generator Thru - 5/16" x 12" - 115/230 Volt Model	2
3	211D53	Bell, End - DC Models	1
3	211C54	Bell, End - 115/230 Volt Models	1
4	520A383	Stud, Armature Thru - 7/16" x 17-1/4" - 115/230 Volt Models	1
5	232A1	Gasket, Bearing Cover - 115/230 Volt and DC Models	1
6	232B518	Cover, Bearing - 115/230 Volt and DC Models	1
7	232B923	Band, End Bell Cover - 115/230 Volt and 32 Volt Battery Charger	1
7	232B847	Band, End Bell Cover - 110-140 Volt Battery Charger only	1
8	*	Armature Assembly - Includes Bearing	1
9	212C116	Rig Assembly, Brush - Includes Brushes and Spring - DC Models	1
9	212C122	Rig Assembly, Brush - Includes Brushes and Spring - 115/230 Volt Models	1
10	221A91	Poleshoe Assembly - AC Models	4
10	221A56	Poleshoe Assembly - DC Models	4
11	*	Coil Assembly, Field - Set of 4	1
12	232B326	Band, End Bell Cover - 115 or 230 Volt AC Models and Dual Purpose Models	1
13	232A372	Cover, Bearing - 115 or 230 Volt AC Models and Dual Purpose Models	1
14	232B249	Hub, End Bell Housing - 115 or 230 Volt AC Models and Dual Purpose Models	1
15	211C33	Bell, End - 115 or 230 Volt AC Models and Dual Purpose Models	1
16	212A1061	Spider, Brush Rig - 115 or 230 Volt AC Models and Dual Purpose Models	1
17	212C130	Rig Assembly, Brush - Includes Brushes and Springs - 115 or 230 Volt AC Models only	1
17	212C138	Rig Assembly, Brush - Includes Brushes and Springs - Dual Purpose Models only	1
19	520A394	Stud, Armature Thru - 7/16" x 16-1/8" - All except 115/230 Volt Models	1
20	520A136	Stud, Generator Thru - 5/16" x 10-1/4" - 115 or 230 AC Models and Dual Purpose Models	2
21	510A47	Bearing, Armature - With Slot for Stop Clip - Replaces Bearing #510A1	1

WHEN ORDERING PARTS BE SURE TO INCLUDE MODEL, SERIAL AND SPEC. NUMBER OF UNIT!

REF. NO.	PART NO.	DESCRIPTION	QUANT USED
FIG. R - GENERATOR GROUP (Cont.)			
22	232A596	Clip, Armature Bearing Stop	1
23	212A1003	Spring, DC Brush - AC Models	4
23	212A1011	Spring, DC Brush - DC Models	4
23	212A1004	Spring, AC Brush - AC Models (Note: Quantity is 3 for 115/230 Volt Model)	4
24	312A15	Condenser - 0.1 Mfd. (AC) - Dual Purpose Models Only	1
24	312A17	Condenser - 0.5 Mfd (DC) - DC Models (Note: 1 used on Dual Purpose Models)	2
25	214A30	Brush, DC - AC Models except Dual Purpose Models	4
25	214A9	Brush, DC - Dual Purpose Models Only	4
25	214A18	Brush, DC - DC Models Only	4
25	214A32	Brush, AC - AC Models (Note: Quantity is 3 for 115/230 Volt Model)	4
26	*	Coil Assembly, Interpole - DC Models	1
	420-82	Lubricant, Armature Bearing - Lithium Base Type	2
	221A47	Shoe, Interpole - DC Models	1
	232A268	Coupling, Armature Drive	1
* = Order by description, giving Model, Spec and Serial Number.			
SERVICE KITS			
	149K526	Kit, Fuel Pump Repair Parts	1
	168K57	Kit, Gasket - Complete Plant - Does not Include Oil Seals	1
	120K161	Kit, Gasket - Oil Pump Body and Mounting	1
	101K220	Kit, Crankshaft Bearing - Specify: Standard, 0.002" Undersize or 0.020" Undersize	1
	522K139	Kit, Overhaul - AC Plants	1

WHEN ORDERING PARTS BE SURE TO INCLUDE MODEL, SERIAL AND SPEC. NUMBER OF UNIT!

Onan PARTS PETE says...



GENUINE ONAN PARTS will simplify your maintenance and service and will insure your Onan Plant operating at its peak efficiency.

See the dealer from whom you purchased your plant or go to an Onan Authorized Service Station or Parts Center. They will see that you receive the correct parts and will provide any service information you may need.

If you are operating your plant at a point where it is not convenient to secure very good delivery on parts, or your plant is receiving hard continuous service, your best insurance is to have a complete overhaul kit on hand.

Many times an added accessory will enable you to put your plant to greater or more complete service. Batteries, switches, controls, dollies, or trailers are available for many Onan Plants.

Remember that the Onan Line is complete in capacity range of 500 to 50,000 watts in gasoline; 3,000 and 5,000 watts in diesel; 1500 to 75,000 watts in separate generators, and 3,000 to 10,000 watts in tractor generators. These units are available in standard voltages of AC, DC, and battery charging current.

Onan Generating Equipment is designed for primary, portable, mobile or standby service. Where there is no other source of electricity, it supplies primary power. It supplies portable or mobile power for fire and police departments, construction or radio use. For hospitals, hatcheries, industries or home there is no finer source of standby power. See your dealer for any of these needs.

